



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/597,392

03/16/2007

Maysam Ghovanloo

UOM0327PUSA

1352

22045

7590

04/29/2010

BROOKS KUSHMAN P.C.  
1000 TOWN CENTER  
TWENTY-SECOND FLOOR  
SOUTHFIELD, MI 48075

EXAMINER

BURD, KEVIN MICHAEL

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

04/29/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/597,392	<b>Applicant(s)</b> GHOVANLOO ET AL.	
	<b>Examiner</b> Kevin M. Burd	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 2611

1. This office action, in response to the request for continued examination and the amendment filed 4/21/2010, is a non-final office action.

### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/21/2010 has been entered.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new grounds of rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 6, 7, 9, 11, 16, 17, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Harrington et al (US 2002/0077710).

Art Unit: 2611

Regarding claims 1, 7, 11, 17 and 20, Harrington discloses a high rate wireless receiver for an FSK data transceiver system having a data protocol in figure 7. The pair of modulation frequencies is used to set the receiver clock (paragraph 0040). The receiver counts the number of rising edges in the received FSK signal and readily differentiates between the two valid FSK frequencies to reject other FSK signals and/or noise (paragraph 0041). The digital demodulator of the receiver of figure 7 will generate a serial data stream based on the received FSK frequencies and generates a constant frequency clock (paragraph 0040) based on the received and sampled input signal. The FSK receiver is fully digital without the need for analog circuits in the signal path of the receiver (figure 7). The receiver will be smaller, lower power and more robust compared with larger, higher power and less robust systems.

Regarding claims 6 and 16, as stated above, the receiver counts the number of rising edges in the received FSK signal and readily differentiates between the two valid FSK frequencies to reject other FSK signals and/or noise (paragraph 0041).

Regarding claims 9 and 19, figure 7 is a magnetic powered wireless system (abstract).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-4 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrington et al (US 2002/0077710) in view of Tajima (US 2001/0002924).

Regarding claims 2-4 and 12-14, Harrington discloses the receiver in an FSK system as stated above. Harrington discloses, for a non-limiting example, using frequencies of  $F1=114.7$  kHz and  $F2=147.5$  kHz (paragraph 0039). Harrington does not disclose the data rate is greater than one Mbps and the data rate approximates the carrier frequency 2.3 MHz. Tajima discloses a receiver in an FSK system that receives data at 1 Mbps (paragraph 0031) and the data rate approximates the carrier frequency 2.3 MHz (figure 3). It would have been obvious for one of ordinary skill in the art at the time of the invention to use high data rates as taught by Tajima in all FSK systems. The higher the data rate, the more information can be communicated in a given period of time.

6. Claims 5 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrington et al (US 2002/0077710) in view of Schuur (US 5,590,157).

Regarding claims 5 and 15, Harrington discloses the receiver in an FSK system as stated above. Harrington discloses, for a non-limiting example, using frequencies of  $F1=114.7$  kHz and  $F2=147.5$  kHz (paragraph 0039). Harrington does not disclose one of the carrier frequencies is twice the other carrier frequency. Schuur discloses an FSK demodulator (abstract) where the waveforms in a FSK phase-coherent modulated sine-shaped signal according to IEEE Standard 802.4 and where a "one" is represented by a sine having a frequency and a "zero" is represented by a sine having twice that

Art Unit: 2611

frequency (figure 1 and column 4, lines 38-45). It would have been obvious for one of ordinary skill in the art at the time of the invention to utilize FSK modulation frequencies that are well known and conform to established standards for ease of use and compatibility with present day receivers. In addition, it would have been obvious for one of ordinary skill in the art at the time of the invention to provide the simple substitution of the modulation frequency ratio of Schuur since the frequencies will operate in substantially the same manner and will yield the same results.

7. Claims 8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrington et al (US 2002/0077710).

Regarding claims 8 and 18, Harrington discloses the receiver in an FSK system as stated above. Harrington discloses a counter to count the number of rising edges in the received FSK signal (paragraph 0041). Harrington discloses the receiver clock is constant and lower than the FSK carrier frequencies (paragraph 0040). This lower clock frequency requires a slow data rate. It would have been obvious for one of ordinary skill in the art at the time of the invention to increase the clock frequency to allow for an increase in the data rate. More data will be able to be communicated to the receiver, increasing the capacity of the communication system. For this reason, it would have been obvious for one of ordinary skill in the art at the time of the invention to increase the clock frequency.

Art Unit: 2611

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harrington et al (US 2002/0077710) in view of Thompson (US 2002/0045920).

Regarding claim 10, Harrington discloses the receiver in an FSK system as stated above. Harrington does not disclose the receiver is in a wireless biomedical implant. Thompson discloses a high rate receiver for an FSK data transmission system (paragraph 0018) the receiver comprises a digital demodulator for demodulating the received signals having a data rate. Thompson discloses the FSK receiver system is a wireless biomedical implant (figure 1 and abstract). It would have been obvious for one of ordinary skill in the art at the time of the invention to utilize well known FSK receivers such as the FSK receiver of Harrington for applications that utilize FSK receivers such as in biomedical devices. Thompson discloses the use of FSK receivers in biomedical devices. It would have been obvious for one of ordinary skill in the art to provide the simple substitution of the FSK receiver of Harrington into the biomedical device of Thompson since the will operate in substantially the same manner and will yield substantially the same result.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is (571) 272-3008. The examiner can normally be reached on Monday - Friday 9 am - 5 pm.

Art Unit: 2611

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Payne can be reached on (571) 272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin M. Burd/  
Primary Examiner, Art Unit 2611  
4/25/2010